
Material Safety Data Sheet

Product Name	<u>Triethyl citrate</u>
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Triethyl Citrate**Synonyms:** No Data Available**CAS-No:** 77-93-0**EC-No.:** 201-070-7**Molecular Formula:** C₁₂H₂₀O₇

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:**Recommended Use:** Chemical for analysis, synthesis**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com
- **E-Mail Address** safety@finarchemicals.com; info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717
- Registered office No: +91 - 79 - 40040085

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label Elements:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Triethyl Citrate

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Triethyl Citrate	77-93-0	201-070-7	>95

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

- **If inhaled**

Remove to fresh air. Get medical attention immediately if symptoms occur.

- **In case of skin contact**

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

- **In case of eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

- **If swallowed**

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Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed:

No data available

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media:**

Suitable Extinguishing Media Use water , alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3. Advice for firefighters:

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further Information:

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures:**

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: For personal protection see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly.

Clean up affected area.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling:**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

7.2. Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters:**

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

- **Personal Protective Equipment:**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Eye & Face Protection-**

Safety Goggles

- **Respiratory Protection-**

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Required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental Exposure Controls-

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties:**

- **Physical State:** Liquid
- **Appearance:** Colorless
- **Odor:** Odorless
- **pH:** No data available
- **Melting Point:**
- **Auto-Ignition Temperature:** No data available
- **Vapor Pressure:** 0.7 mmHg at 122 °C
- **Vapor Density:** 9.7
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Odor Threshold:** No data available
- **Viscosity:** 35.2 mPa.s (25°C)
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Partition Coefficient n-octanol/water:** No data available
- **Relative Density:** No data available
- **Boiling Point/Range:** 294 °C
- **Specific Gravity:** 1.136
- **Decomposition Temperature:** > 200 °C
- **Flash Point:** 151 °C
- **Density:** 1.135 g/cm³ at 25 °C

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- **Molecular Weight:** 276.29 g/mol
- **Solubility:** 65 g/l at 25 °C

9.2. Other information:**Molecular Formula:** C₁₂H₂₀O₇**SECTION 10: STABILITY AND REACTIVITY****10.1. Reactivity:**

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions:

Violent reactions possible with:

Oxidizing agents

10.4. Conditions to avoid:

Strong heating

10.5. Incompatible materials:

No data available

10.6. Hazardous decomposition products:

No data available

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects:****Acute Oral toxicity**

LD50 Rat: >3200 mg/kg

(Lit.)

Acute inhalation toxicity

LC50 Rat: 14.9 mg/l; 6 h

(Lit.)

Acute dermal toxicity

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LD50 Rabbit: > 5,000 mg/kg

(RTECS)

Skin corrosion/irritation

Skin – Rabbit

Result: No Irritation

(External MSDS)

Serious eye damage/eye irritation

Rabbit

Result: No eye irritation

(External MSDS)

Respiratory or skin sensitization

Patch test: human

Result: negative

(External MSDS)

Sensitisation test: Guinea pig

Result: negative

(Lit.)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Result: negative

(External MSDS)

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (External MSDS)

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

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No data available

Aspiration hazard

No data available

11.2 Additional Information:

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:**Toxicity to fish**

LC50 *Leuciscus idus* (Golden orfe): 450 mg/l; 48 h

(External MSDS)

Toxicity to daphnia and other aquatic invertebrates

No data available

Toxicity to algae

No data available

Toxicity to bacteria

EC10 Bacteria: > 100,000 mg/l; 18 h

(External MSDS)

12.2 Persistence and degradability:

Biodegradability

Readily biodegradable

12.3 Bioaccumulate potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects:

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

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13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste.

Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	Not classified as dangerous in the meaning of transport regulations.		
14.2 Proper shipping name	Not classified as dangerous in the meaning of transport regulations.		
14.3 Class	Not classified as dangerous in the meaning of transport regulations.		
14.4 Packing group	Not classified as dangerous in the meaning of transport regulations.		
14.5 Environmentally hazardous	Not classified as dangerous in the meaning of transport regulations.		
14.6 Special precautions for user	Not classified as dangerous in the meaning of transport regulations.		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code			
No Data Available			

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

National legislation

Storage class 10-13

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

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Training advice

Provide adequate information, instruction and training for operators.

References: Not available

Created: 28/07/2020

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